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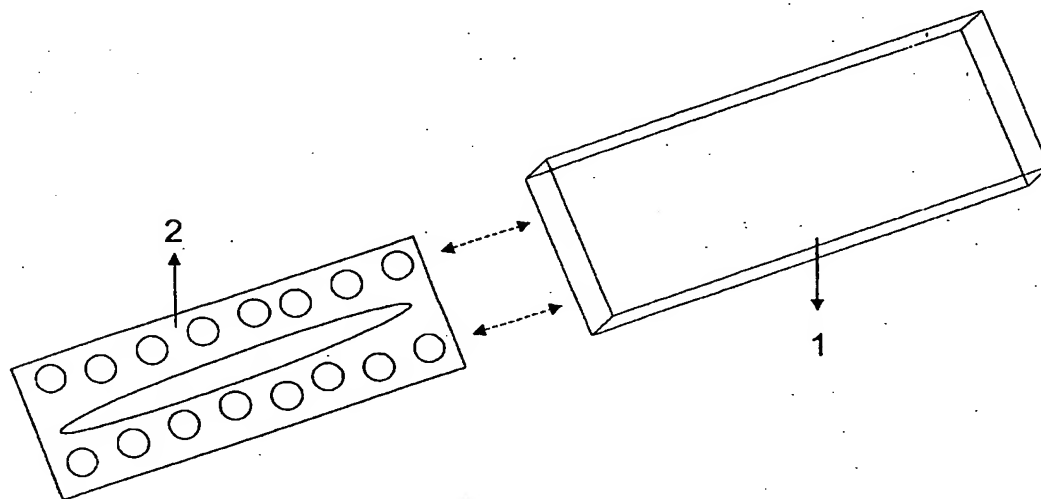
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(54) Title: **PILL HOLDER AND REMINDER DEVICE**



(57) Abstract: More and more pills are supplied as blister packs. The present invention therefore provides a cover/holder for a blister pack of pills, which is capable of issuing a warning when ingestion is next due. When the blister pack of pills is inserted into the holder, an electric circuit is activated so that a timer then begins and once the timing period has been attained this initiates an alarm, the timing period is based on the recommend ingestion intervals. When the blister pack of pills is removed for ingestion the circuit is open and not functioning, once replaced the circuit is closed and timing commencement begins again. When the blister pack is made of foil, the foil itself may be used to close the electric circuit.

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PILL HOLDER AND REMINDER DEVICE

The present invention relates to pill containers and in particular to containers that are capable of issuing a reminder/warning when ingestion is next due.

5

One of the most common problems associated with the periodic taking of medication is the failure to take pills on time. Often, a person simply forgets to take a pill when the appropriate time comes. Sometimes a person forgets when he or she has taken their last pill. A person may forget whether he or she indeed took a pill the last time.

10

Some medications demand the building up of a body accumulation of drugs to a certain level and maintaining that level by a precise regime of pill taking. Failure to take pills according to that regime results in an excess or deficiency of medication level, either of which may have adverse effects.

15

Many medications are given in maximum safe dosages. Exceeding those dosages by taking pills too often, such as when one forgets when the last pill was taken or if the last pill was taken too late and another pill too soon, may have serious consequences. Failure to take sufficient pills due to failure to remember when pills were last taken or failure to remember to
20 take a pill at an appointed time or other interruption of a regime may reduce body level of a medication to an ineffective amount. Not only are such reduced levels ineffectual, but also such reduced levels may produce either a sensitivity to a drug or an immunity to its effects. Later prescriptions of the same drugs may not be advisable, even if prescribed regimes of medication are closely followed at a later time.

25

According to a preferred embodiment of the invention, useful with foil based blister packs, electrical contacts are provided on the inner surface of the holder such that upon insertion of the blister pack into the holder the foil of the blister pack closes the circuit between the
5 contacts and so activates a reminder/warning device to flag when the next ingestion is due.

Alternatively a switch device may be incorporated into the inner surface of the holder that is closed upon insertion of the pack and opened when the pack is removed for the next
10 ingestion.

As a further embodiment the holder may be provided with a closure member such as a hinged cover which, when closed activates the timer and reminder system. In this way opening the holder breaks the circuit and closure reactivates the circuit.

15 A circuit is provided in the wall of the holder comprising a timer, a source of energy, usually electricity and an alarm. In the preferred embodiment, the timer has an hour indicating indicia-bearing disk mounted on the outer cover of the holder. Any conventional form of small timer may be employed; the timer may be mechanical or more preferably digital. When the desired time period expires the alarm is activated usually by completion of the electric circuit
20 to allow power to flow to the alarm device.

A noise-producing device is preferred as the reminder/warning device. A buzzer is preferred, but a bell or chime may be used. A variable device, such as a controllable sound deadening device, may be used to change the intensity of sound produced by the signal according to the
25 desires and needs of the user. Any convenient signal may be used. A light may be employed where the device is worn in a visible spot. Temperature change may be employed

according to the nature and circumstances of the patient. It may for instance create a noise such as a buzzer or a bell and/or it may generate a flashing light. Alternatively it may generate a radio signal, which activates a remote alarm/warning system such as a telephone or a device in a central dispensary in for example a hospital.

5

The holder can also be provided with an indicator on the outer surface such as a light to confirm that the timer/warning system has been activated.

The present invention is illustrated by the drawings in which:

10

Figure 1 shows a holder according to the invention containing a blister pack of pills.

Figure 2 is a diagrammatic illustration of how the blister pack can be removed from and inserted into the holder.

15

Figure 3 shows a configuration of the circuitry in the holder.

Figures 4 and 5 shows alternate circuitry that can be used.

20 Figure 6 shows an alternate embodiment in which a switch is provided on the inner surface of the holder.

Figure 7 shows the circuitry to be used with the holder show in Figure 6.

25 Figure 8 shows a box like container with a hinged cover.

in the open position), which is closed as the blister pack is inserted and opened as it is removed.

Figure 7 shows the circuitry that can be used in the holder of Figure 6, references 7, 8, and 9
5 being to the battery, timer and alarm respectively.

Figure 8 shows a box like holder 13 provided with a cover 14 hinged at one wall 15 of the holder. The other wall of the holder 16 is provided with a switch 17 which is activated when it is depressed by closure of the cover.

10

Figure 9 shows a similar system to Figure 8 except that conductive elements 17, 18 and 19 are provided in the walls 13, 14 and 16 so that the circuit is closed by closure of the cover.

In both embodiments the cover may be spring loaded to favour the closed position to avoid
15 unplanned opening of the holder.

The holder and the blister pack may be supplied together as a single system or the holder may be supplied separately and reused for several blister packs.

8. A holder according to any of the preceding claims, wherein the reminder/warning device provides a light to remind that the next ingestion is due.
- 5 9. A holder according to any of the preceding claims, wherein the reminder/warning device provides a radio signal beamed to a remote location to provide a reminder that the next ingestion is due.
- 10 10. A holder according to any of the preceding claims, also containing a device that indicates when the timer is activated.
11. A holder according to Claim 10, in which the device is a light.

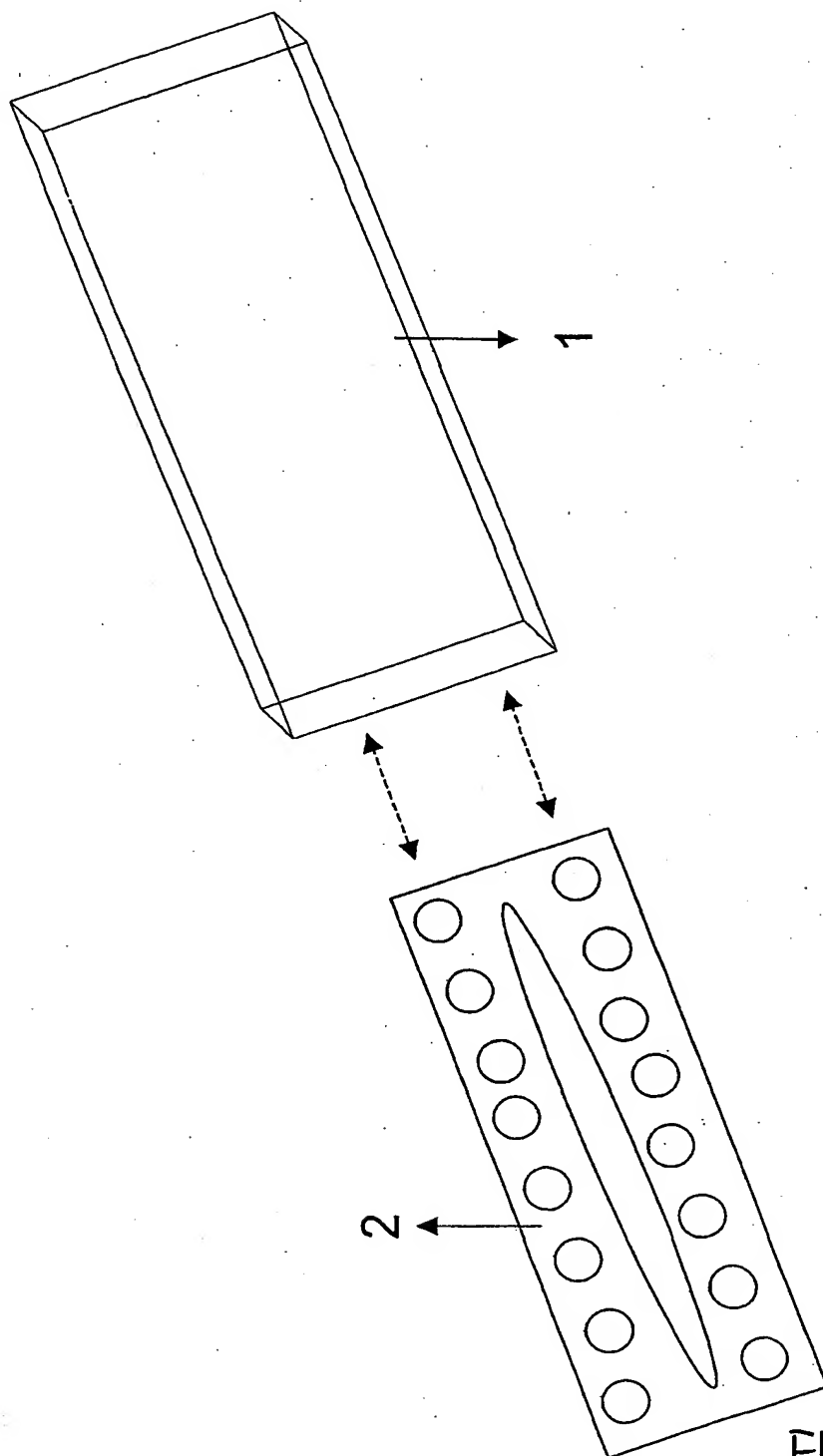


FIG. 2

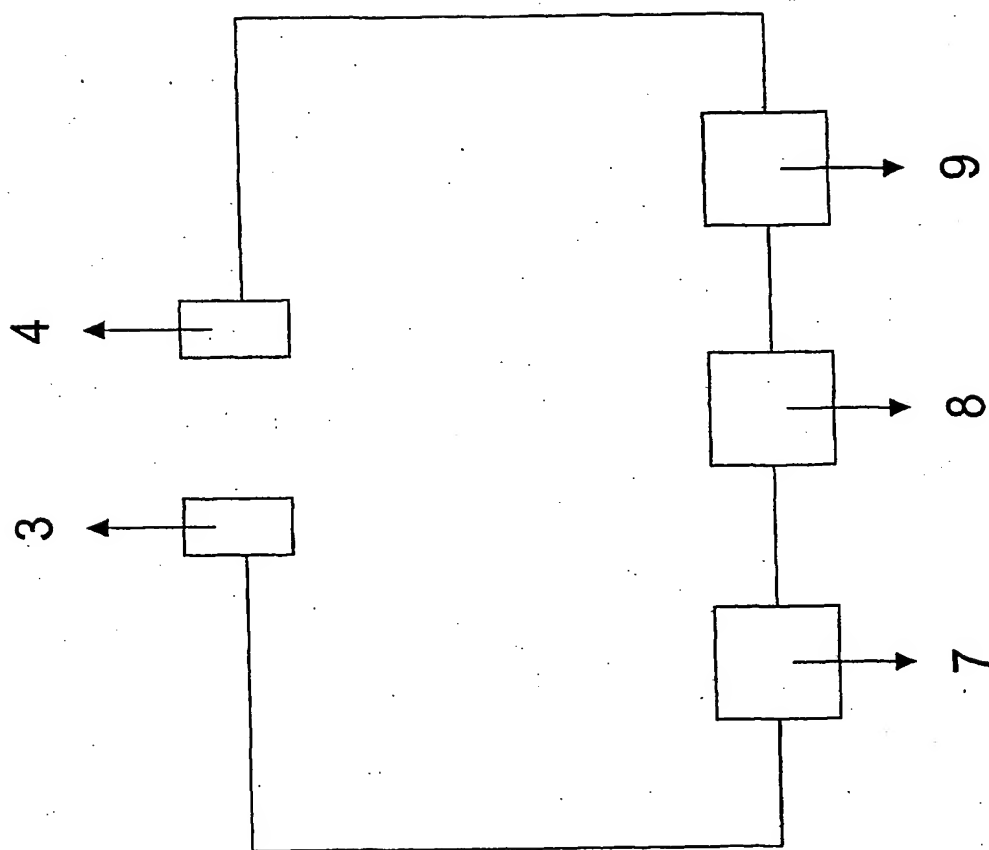


FIG. 4

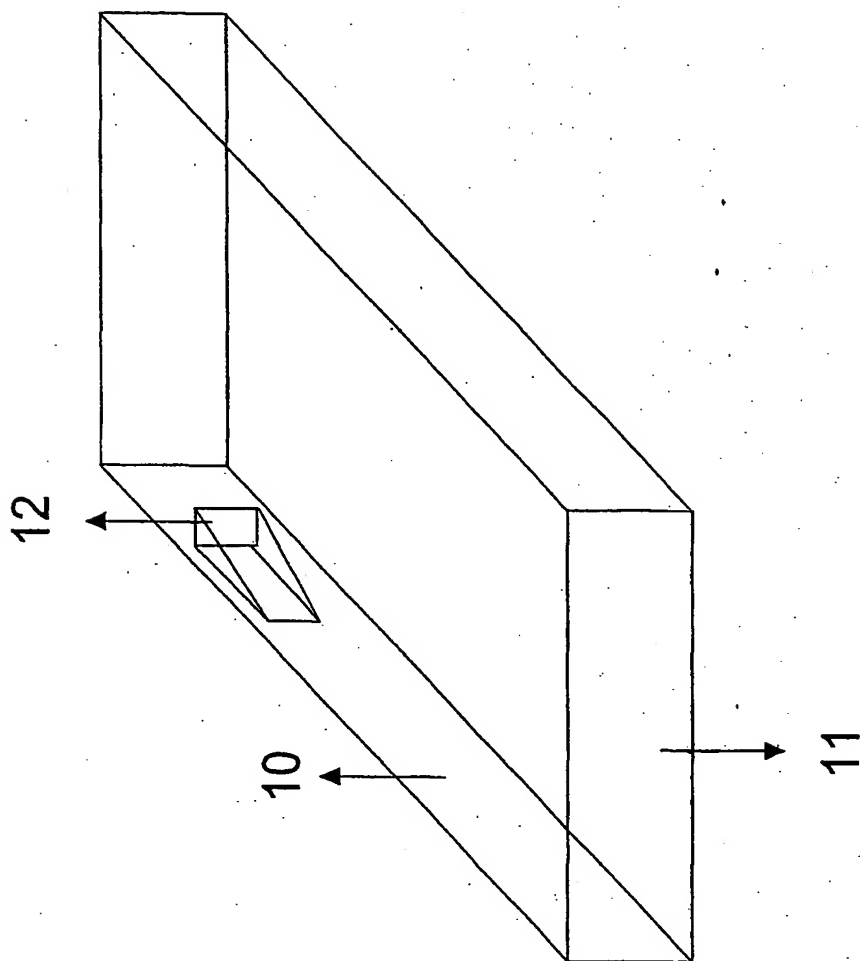


FIG. 6

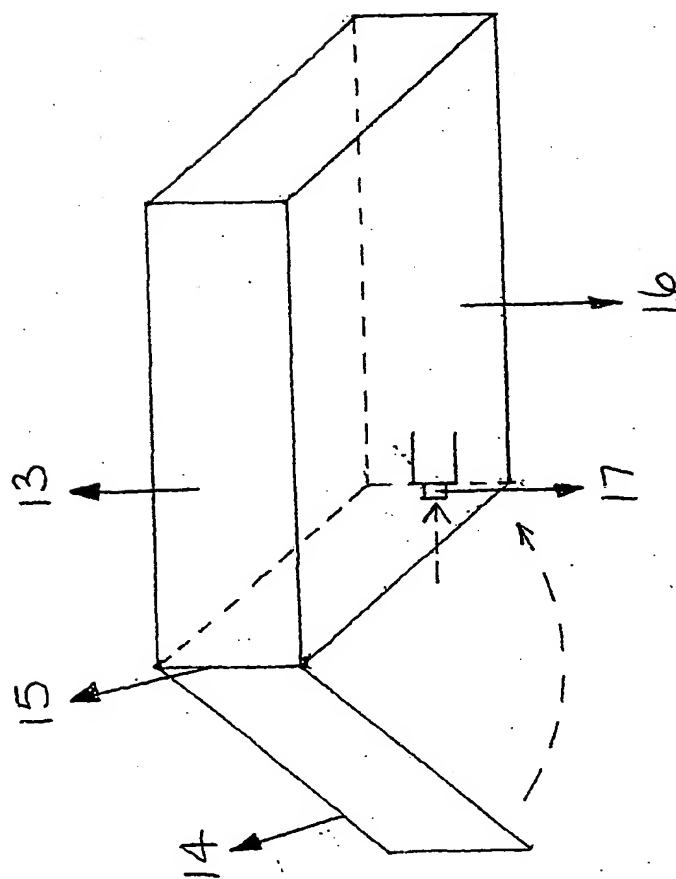


FIG. 8

INTERNATIONAL SEARCH REPORT

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 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61J/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	page 5, line 31 - line 35; figures	9,10
X	US 5 313 439 A (ALBECK DAN) 17 May 1994 (1994-05-17) column 4, line 43 - line 52	1-3,5,7, 8
A	column 6, line 64 - column 7, line 17; figures	6,9,10
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A	page 4, line 23 - line 32; figures	6,9,10
X	NL 7 808 415 A (VENTURE B V RICHTERSLAAN 64) 13 February 1980 (1980-02-13) claim 1; figures	1,3,5,7, 8
	-/-	

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Information on patent family members

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